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Summary

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Feature Articles

Water Efficiency in South Australia's Vineyards



Demography

Includes: **Estimated resident population, Components of population change**
South Australia's population increased by 18,500 during the year ended 30 December 2008.



Labour Force

Includes: **Contents, Employed persons, Unemployment, Participation rate**
South Australia's unemployment rate remained steady at 5.6% in May 2009.



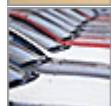
Incomes

Includes: **Average weekly earnings**
Average weekly full time earnings for South Australian males increased 6.8% in the year to February 2009, while female full time earnings increased 7.6%.



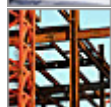
State Accounts

Includes: **State accounts, Household final consumption expenditure (HFCE)**
South Australia the only state with increased State Final Demand in the March quarter 2009.



Consumption

Includes: **Retail trade, New motor vehicle sales**
Retail turnover in SA fell 0.1% from March 2009 to April 2009 (seasonally adjusted).



Investment

Includes: **Private new capital expenditure, Mineral and petroleum exploration expenditure**
South Australia's Private New Capital Expenditure decreased by 2.3% to \$1,201m in the March 2009 quarter.



Construction

Includes: **Building approvals, Construction work done**
The total number of dwelling units approved in South Australia increased by 4.1% from March 2009 to April 2009.



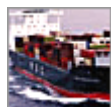
Price Indexes

Includes: **Contents, Consumer price index, Wage price index, House price index**
The house price index for Adelaide fell 1.9% in the year to the March quarter 2009.



Housing Finance

Includes: **Housing finance commitments**
Total value of housing finance commitments (owner occupier) for South Australia in April 2009 was \$1,131m.



International Merchandise Trade

Includes: **Exports and Imports**
The value of South Australia's merchandise exports was \$701m in April 2009 (down 12.0% from March 2009).



Water

Includes: **Rainfall, Reservoir levels**
Total water storage in Adelaide's reservoirs was at 53% of capacity at the end of May 2009.

In this issue

NOTES

FORTHCOMING ISSUES

ISSUE	Release Date
July 2009	28 July 2009
August 2009	25 August 2009
September 2009	30 September 2009
October 2009	27 October 2009
November 2009	24 November 2009

WHAT'S NEW THIS MONTH

Topics which have been updated with new data in this month's issue of **SA Stats** include: Construction; Consumption; Demography; Housing Finance; International Merchandise Trade; Investment; Labour Force; State Accounts and Water.

This month's **SA Stats** includes a new article on water efficiency in South Australia's vineyards. The article uses data from a variety of sources including the Australian Wine and Grape Industry publication to examine the effects of reduced rainfall conditions that have been recorded across much of South Australia since late 2001 on water efficiency and the irrigation methods used on South Australian vineyards.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or James Inglis on Adelaide (08) 8237 7405, or email sa.statistics@abs.gov.au.

Feature Articles



FEATURE ARTICLES

Jun 2009	Water Efficiency in South Australia's Vineyards
May 2009	Journey to Work in the City of Adelaide
Apr 2009	Housing Finance - First Home Buyers and Other Borrowers
Feb 2009	Recent Increases in South Australia's Fertility
Jan 2009	South Australian Household Final Consumption Expenditure
2009	

Dec 2008	Energy Consumption in South Australia
Nov 2008	Adelaide's Population Turnover
Oct 2008	Contributors to Adelaide's Price Rises
Sep 2008	Adelaide's Suburbs of Advantage and Disadvantage
Aug 2008	South Australia's Agriculture Industry
July 2008	New Dwelling Approvals in South Australia
May 2008	Literacy of South Australians
April 2008	South Australia's Migrant Population
	South Australia's Ageing Population and the Labour Force
Feb 2008	South Australia's Mining Industry
	Water Supply in South Australia
Jan 2008	Labour Force Underutilisation and the Underemployed in South Australia
	Water Use in Agriculture - A South Australian Perspective
2007	
Nov 2007	Sports Attendance in South Australia
	Recorded Crime - Victims, South Australia, 2006
Oct 2007	Attendance at Cultural Venues and Events by South Australians
Aug 2007	Children's Participation in Cultural and Leisure Activities - South Australia, 2006
Jul 2007	South Australia's big picture: Census highlights the changes in South Australian society
	Participation in Sports and Physical Recreation Activities - South Australia
May 2007	Health of South Australians - Body Mass
	Household Use of the Internet in South Australia
Apr 2007	Employment in the Retail Trade Industry in South Australia
	River Murray - South Australia
Mar 2007	Household Waste Management in South Australia
Feb 2007	Births - South Australia
Jan 2007	Gross Domestic Product and Gross State Product
2006	
Dec 2006	Rainfall in South Australia, South Australian Reservoirs, Water Consumption
Nov 2006	Health of South Australians - Health related actions
Oct 2006	National Regional Profile - New Release, New Features
Sep 2006	Fuel Production and Consumption, Greenhouse Gas Emissions, Land Use Change and Forestry
Aug 2006	Health of South Australians - Health Risk Behaviours
	The South Australian Grape Industry
Jul 2006	Use of IT By Australian Businesses
	Household use of the Internet in South Australia
May 2006	Health of South Australians - Health Status
Apr 2006	International Trade in Services
	International Students in South Australia
Feb 2006	Labour Force and Other Characteristics of Migrants in South Australia
Jan 2006	Survey of work in selected Culture & Leisure Activities
2005	
Nov 2005	Household Income in South Australia
	Household Expenditure in South Australia
Oct 2005	SA Business and Innovation
	Recent History of Population change in South Australia, 1993-94 to 2003-04
Aug 2005	Average Weekly Earnings
	Transition from School

Demography



DEMOGRAPHY

ESTIMATED RESIDENT POPULATION

The estimated resident population (ERP) for South Australia was 1,612,000 at 31 December 2008, an increase of about 18,500 persons (1.2%) since 31 December 2007. Nationally, the ERP was 21,644,000 at 31 December 2008, an increase of about 406,100 persons (1.9%) since 31 December 2007.

ESTIMATED RESIDENT POPULATION, Preliminary data

	Population at end December quarter 2008 '000	Change over previous year '000	Change over previous year %
New South Wales	7 041.4	97.5	1.4
Victoria	5 364.8	102.4	1.9
Queensland	4 349.5	106.7	2.5
South Australia	1 612.0	18.5	1.2
Western Australia	2 204.0	66.0	3.1
Tasmania	500.3	4.9	1.0
Northern Territory	221.7	4.2	2.0
Australian Capital Territory	347.8	5.8	1.7
Australia(a)	21 644.0	406.1	1.9

(a) Includes Other Territories comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.
Source: Australian Demographic Statistics (cat. no. 3101.0).

In 2007-08, the South Australian Statistical Division (SD) with the largest percentage increase in ERP was Outer Adelaide (2.0%) followed by Adelaide (1.1%).

ESTIMATED RESIDENT POPULATION(a), By Statistical Division, South Australia

	2007		2008	
	Population at 30 June '000	Change over previous year %	Population at 30 June '000	Change over previous year %
Adelaide	1 159.1	1.2	1 172.1	1.1
Outer Adelaide	131.4	2.1	134.1	2.0
Yorke and Lower North	45.9	1.0	46.4	1.0
Murray Lands	69.8	0.5	70.1	0.4
South East	64.9	0.6	65.4	0.8
Eyre	35.0	0.5	35.2	0.5
Northern	79.6	0.7	80.1	0.6
South Australia	1 585.8	1.1	1 603.4	1.1

(a) Estimates for 2007 are revised to align with new 2007 state and territory totals and estimates for 2008 are preliminary.

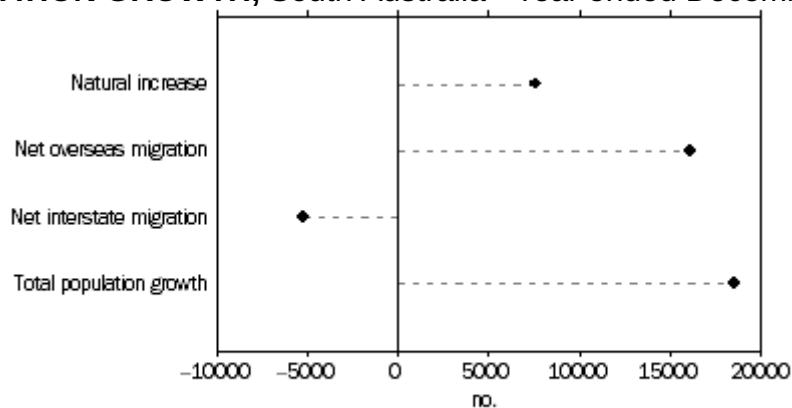
Source: Regional Population Growth, Australia 2007-08 (cat. no. 3218.0).

COMPONENTS OF POPULATION CHANGE

For the year ended 31 December 2008, South Australia recorded a natural increase (i.e. the net of births and deaths) of 7,613 persons. Net overseas migration provided a gain of 16,090 persons in the same period while net interstate migration realised a loss of 5,195 persons.

For the year ended 31 December 2008, Australia recorded a natural increase in population of 152,668 persons; net overseas migration resulted in a gain of 253,415 people.

POPULATION GROWTH, South Australia - Year ended December 2008



Source: Australian Demographic Statistics (cat. no. 3101.0)

Labour Force



LABOUR FORCE

CONTENTS

[Employed persons](#)

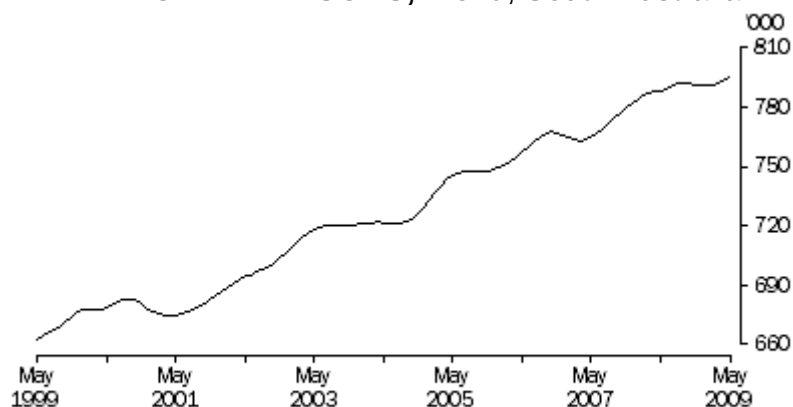
[Unemployment](#)

[Participation rate](#)

EMPLOYED PERSONS

In trend terms, the total number of persons employed in South Australia in May 2009 was 795,600, an increase of 1,600 from the number of persons employed in April 2009 (794,000). The total number of persons employed in Australia in May 2009 was 10,788,100, a decrease of 1,200 on the number employed in April 2009 (10,789,300).

EMPLOYED PERSONS, Trend, South Australia



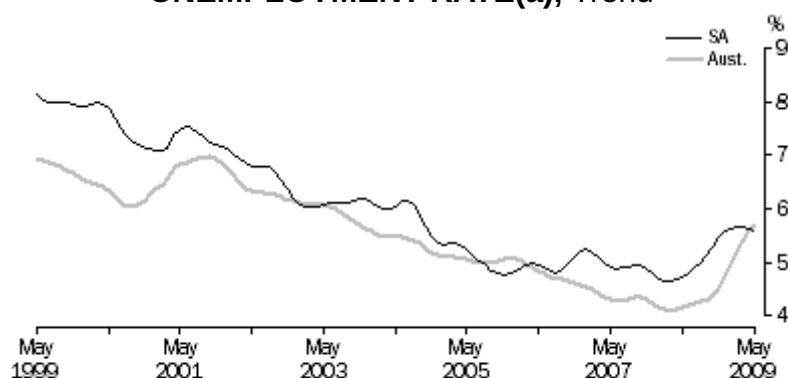
Source: Labour Force, Australia (cat. no. 6202.0)

The number of males employed full-time in South Australia in May 2009 was 355,100 (in trend terms), a decrease from 356,000 in April 2009. The number of females employed full-time in South Australia increased from 185,600 in April 2009 to 187,200 in May 2009.

UNEMPLOYMENT

The trend estimate unemployment rate for South Australia remained steady in May 2009 at 5.6%. Australia's unemployment rate increased from 5.6% in April 2009 to 5.7% in May 2009.

UNEMPLOYMENT RATE(a), Trend

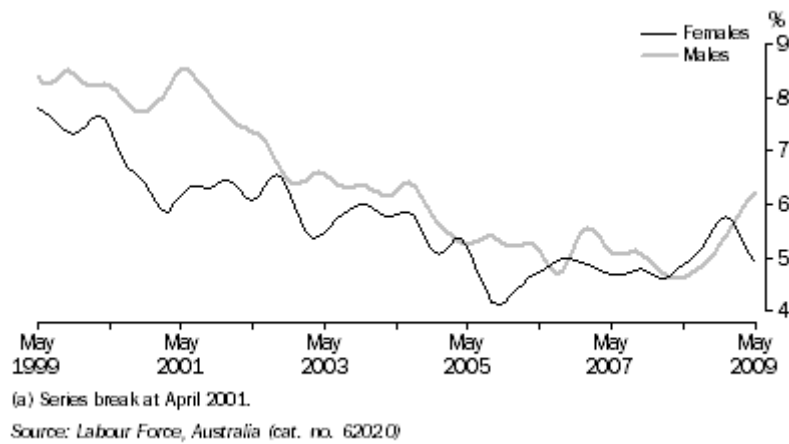


(a) Series break at April 2001.

Source: Labour Force, Australia (cat. no. 6202.0)

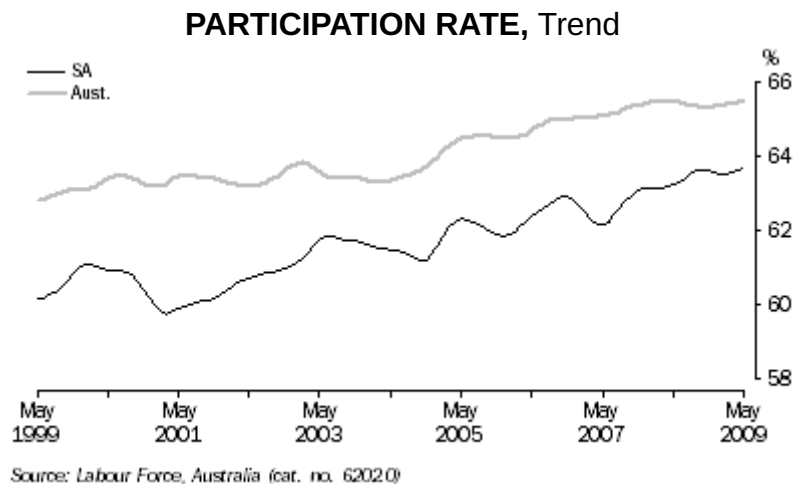
For South Australia, the trend unemployment rate for males increased slightly from 6.1% in April 2009 to 6.2% in May 2009. The trend unemployment rate for females in South Australia decreased slightly from 5.1% in April 2009 to 4.9% in May 2009.

UNEMPLOYMENT RATE(a), Trend, South Australia



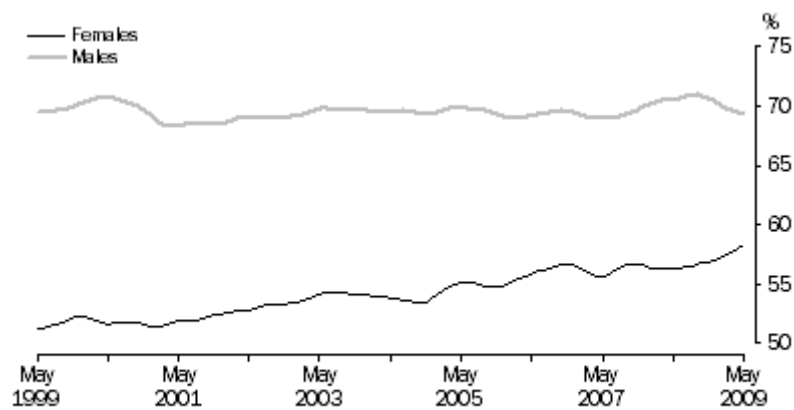
PARTICIPATION RATE

The trend estimate of the participation rate for South Australia increased slightly from 63.6% in April 2009 to 63.7% in May 2009. Australia's trend participation rate remained steady since April 2009 at 65.5%.



For South Australia, the trend participation rate for males dropped slightly from 69.5% in April 2009 to 69.3% in May 2009. The Australian participation rate for males remained steady in May 2009 at 72.2%. The participation rate for South Australian females increased from 58.0% in April 2009 to 58.3% in May 2009. The Australian female participation rate increased slightly over this period from 58.9% in April 2009 to 59.0% in May 2009.

PARTICIPATION RATE, Trend, South Australia



Source: Labour Force, Australia (cat. no. 6202.0)

Incomes



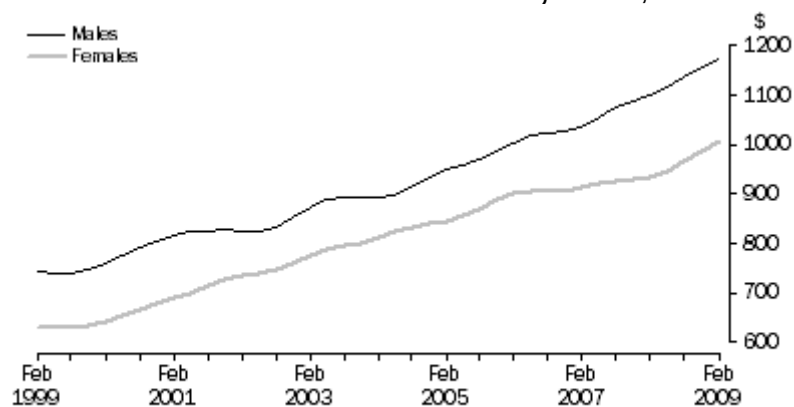
INCOMES

AVERAGE WEEKLY EARNINGS

The trend estimate of average weekly (ordinary time) earnings for full-time adult persons in South Australia increased by 7.3% to \$1,116.50 in the 12 months to February 2009. Nationally, the corresponding increase was lower at 5.9% (up to \$1,183.10).

In the 12 months to February 2009, average weekly full-time earnings in South Australia for males increased by 6.8% to \$1,173.10. Nationally, male average weekly full-time earnings increased 6.5% to \$1,264.50. Female average weekly full-time earnings in South Australia increased by 7.6% to \$1,004.60 in the 12 months to February 2009, compared with a national increase of 5.2% to \$1,046.90.

FULL-TIME ORDINARY TIME EARNINGS, Trend, South Australia



Source: Average Weekly Earnings, Australia (cat. no. 6302.0)

For information on the wage price index, please refer to the '[Price Indexes](#)' topic.

State Accounts



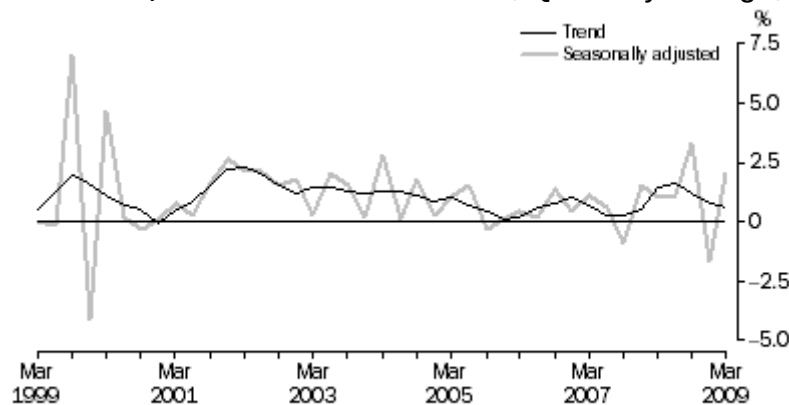
STATE ACCOUNTS

STATE ACCOUNTS

South Australia's March quarter 2009 State Final Demand in chain volume (trend) terms was \$19,144m, a 0.6% increase from the December quarter 2008. Australia's Domestic Final Demand decreased 0.3% in the March quarter 2009, to \$283,026m.

No other state or territory in Australia reported growth in State Final Demand in chain volume (trend) terms during the March quarter 2009. Of the other states and territories, the largest decreases for the quarter were reported in the Northern Territory (down 2.2%) and Queensland (down 1.4%).

STATE FINAL DEMAND, Chain volume measures, Quarterly change, South Australia

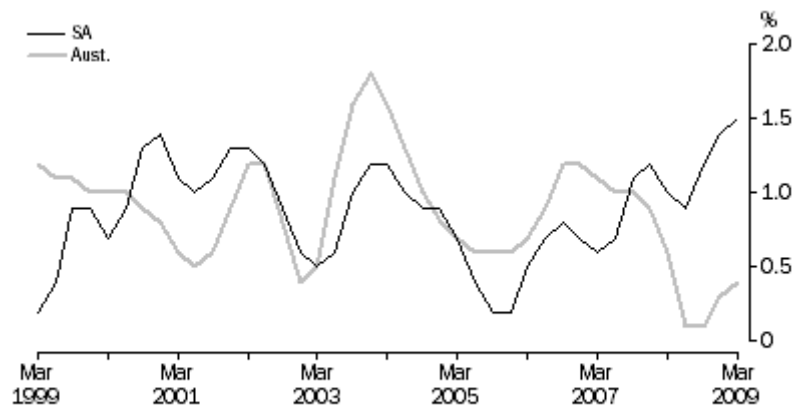


Source: Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

HOUSEHOLD FINAL CONSUMPTION EXPENDITURE (HFCE)

In chain volume (trend) terms, South Australia's March quarter 2009 HFCE was \$11,378m (7.4% of the national total of \$153,634m). The value of HFCE for South Australia increased by 1.5% from the December quarter 2008 to the March quarter 2009. For Australia, HFCE increased by 0.4% from the December quarter 2008 to the March quarter 2009.

HFCE, Chain volume measures, Trend, Quarterly change

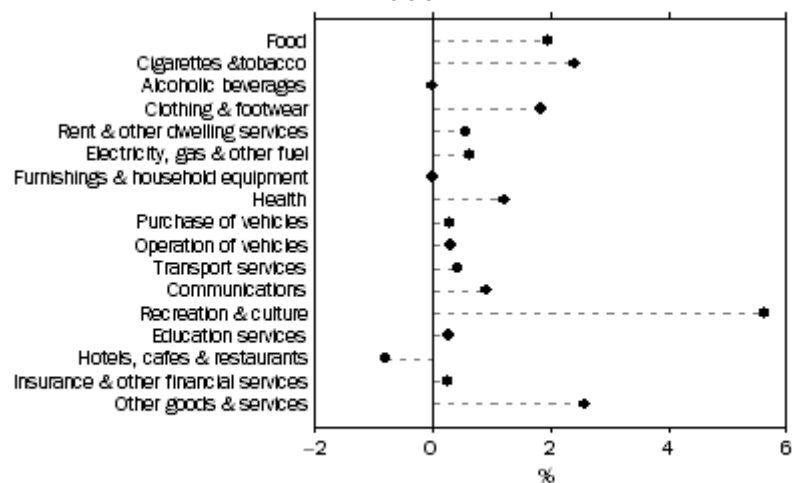


Source: Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

The largest increases in expenditure in South Australia for the March quarter 2009 were for Recreation and culture (up 5.6% from the December quarter 2008), Other goods and services (up 2.6% from the December quarter 2008), Cigarettes and tobacco (up 2.4%) and Food (up 2.0%). Expenditure on Hotels, cafes and restaurants decreased by 0.8% over this period.

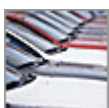
For Australia, the largest increase was for Electricity, gas and other fuel (up 1.0% from the December quarter 2008), followed by Recreation and culture (up 0.8% from the December quarter 2008), Food (up 0.7%), Clothing and footwear (up 0.7%), Health (0.7%), and Communication (up 0.7%). Expenditure on Purchase of vehicles decreased 2.4% from the December quarter 2008.

HFCE, Chain volume measures, Trend, Quarterly change, South Australia - March Quarter 2009



Source: Australian National Accounts: National Income, Expenditure and Product (cat. no. 5206.0)

Consumption



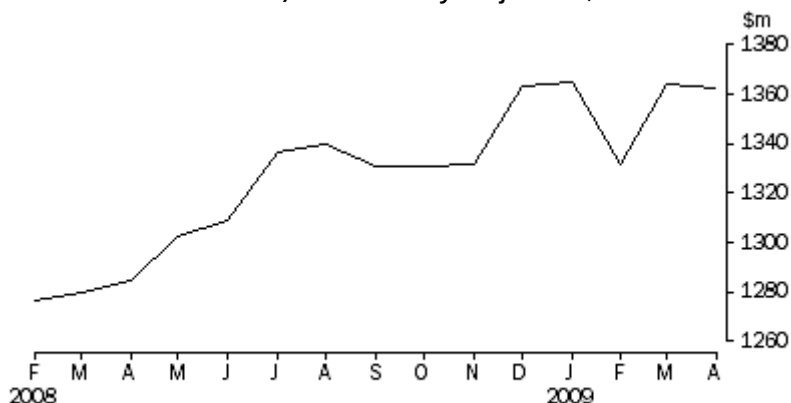
CONSUMPTION

RETAIL TRADE

The April 2009 seasonally adjusted estimate for South Australia's retail turnover was \$1,362.4m, while the estimate for Australia was \$19,351.4m. South Australia's contribution to total retail turnover in Australia decreased slightly from 7.1% in March 2009 to 7.0% in April 2009.

From March 2009, the decrease in retail turnover for South Australia across all retail industries was 0.1%, while turnover for Australia increased by 0.3%.

RETAIL TURNOVER, Seasonally adjusted, South Australia

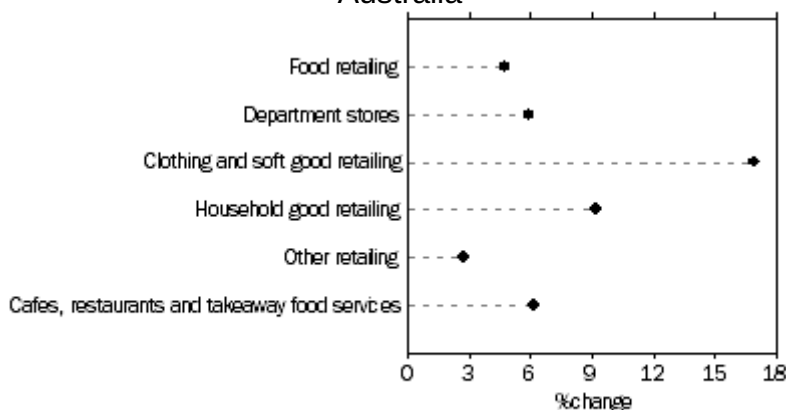


Source: Retail Trade, Australia (cat. no. 8501.0)

Comparing April 2009 with April 2008, the South Australian industry groups with the largest percentage increases in retail turnover (in seasonally adjusted terms) were Clothing and soft good retailing, which rose by 16.9% to \$74.2m, Household good retailing, which rose by 9.2% to \$238.1m, and Cafes, restaurants and takeaway food services, which rose by 6.2% to \$149.9m.

No South Australian industry groups showed decreases in seasonally adjusted retail turnover when comparing April 2009 with April 2008.

RETAIL TURNOVER, Seasonally adjusted, Change from April 2008 to April 2009, South Australia



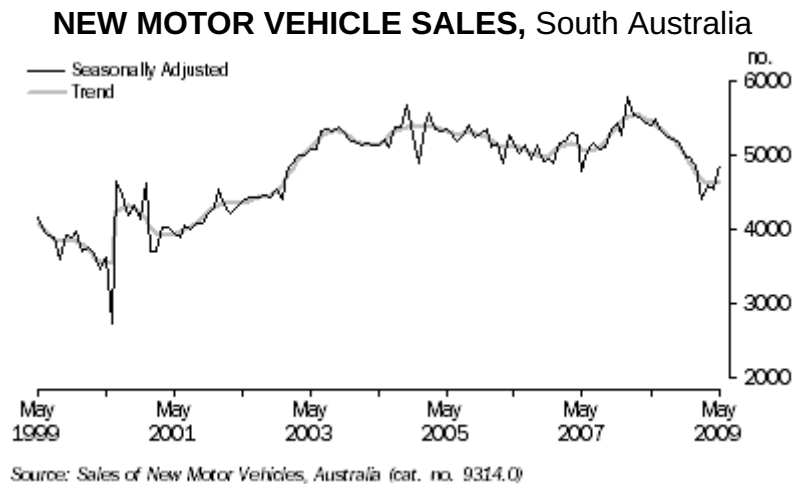
Source: Retail Trade, Australia (cat. no. 8501.0)

NEW MOTOR VEHICLE SALES

In May 2009, 2,816 new passenger vehicles and 4,621 new vehicles in total (in trend terms)

were sold in South Australia. This represents the first increase in the trend estimate for total new vehicle sales in South Australia since February 2008.

In Australia, 42,209 new passenger vehicles and 72,532 new vehicles in total (in trend terms) were sold in May 2009. This represents the first increase in the trend estimate for total new vehicle sales in Australia since January 2008.



Investment



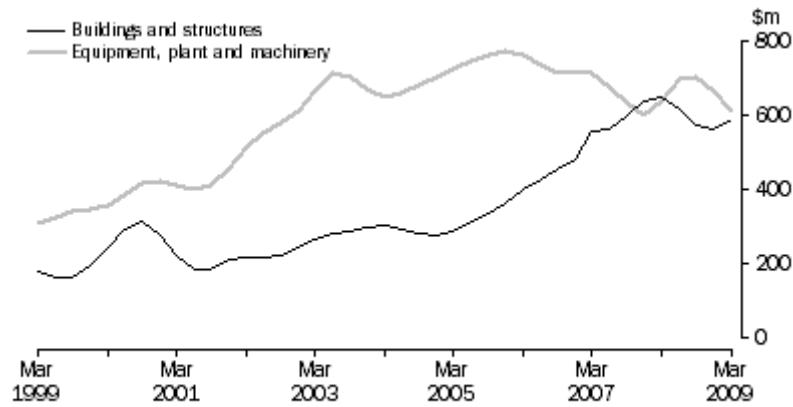
INVESTMENT

PRIVATE NEW CAPITAL EXPENDITURE

Between the December 2008 and March 2009 quarters, the South Australian chain volume (trend) estimate of private new capital expenditure decreased by 2.3% to \$1,201m. Expenditure on Equipment, plant and machinery decreased by \$54m (or 8.1%) to \$612m, while expenditure on Buildings and structures increased by \$26m (or 4.6%) to \$589m.

Between the December 2008 and March 2009 quarters, private new capital expenditure for Australia decreased by 0.7% to \$23,932m. Expenditure on Equipment, plant and machinery decreased by 5.3%, while Buildings and structures expenditure increased by 4.4% over this period.

PRIVATE NEW CAPITAL EXPENDITURE, Chain volume measures, Trend, South Australia



Source: Private New Capital Expenditure and Expected Expenditure, Australia (cat. no. 5625.0)

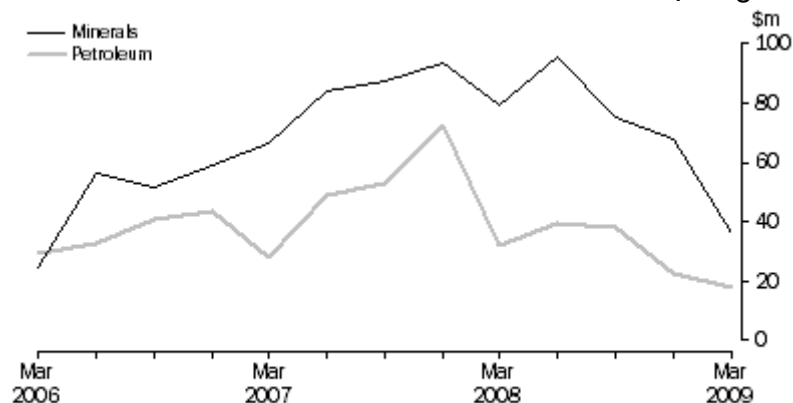
MINERAL AND PETROLEUM EXPLORATION EXPENDITURE

The value of mineral exploration expenditure in South Australia during the March quarter 2009 was \$36.0m (in original terms), down 47.1% from \$68.0m for the December quarter 2008. Over the same period, Australian expenditure on mineral exploration decreased by 37.8% from \$648.5m in the December quarter 2008 to \$403.5m in the March quarter 2009.

The main minerals sought in South Australia in the March quarter 2009 were uranium (\$10.7m exploration expenditure), copper (\$7.6m), and gold (\$6.0m).

Expenditure on petroleum exploration in South Australia in the March quarter 2009 was \$17.9m, down 19.6% from the December quarter 2008. Nationally, expenditure on petroleum exploration decreased 1.5% from \$1,013.4m in the December quarter 2008 to \$998.6m in the March quarter 2009.

MINERAL AND PETROLEUM EXPLORATION EXPENDITURE, Original, South Australia



Source: Mineral and Petroleum Exploration, Australia (cat. no. 8412.0)

Construction



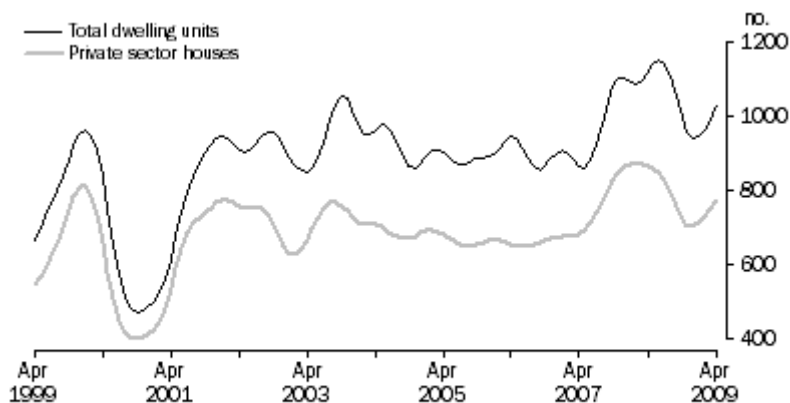
CONSTRUCTION

BUILDING APPROVALS

In April 2009, the total number of dwelling units approved in South Australia (in trend terms) rose 4.1% to 1,034. Nationally, the total number of dwelling units approved (in trend terms) rose 2.2% to 10,590.

The trend estimate for the number of private sector houses approved in South Australia in April 2009 rose 2.8% to 773.

DWELLING UNITS APPROVED, Trend, South Australia



Source: Building Approvals, Australia (cat. no. 8731.0)

In the year ended April 2009, the largest percentage increase in dwelling units approved in South Australia was recorded for the South East Statistical Division (36.1%). The Yorke and Lower North Statistical Division recorded the greatest percentage decrease in dwelling units approved in the year ended April 2009 (down 10.7%), following a 27.9% increase during the year ended April 2008.

DWELLING UNITS APPROVED, by Statistical Division, Original, South Australia

	Year ended April 2008		Year ended April 2009	
	Dwelling units no.	Change over previous year %	Dwelling units no.	Change over previous year %
Adelaide	8 662	19.9	8 848	2.1
Outer Adelaide	1 597	6.0	1 665	4.3
Yorke and Lower North	609	27.9	544	-10.7
Murray Lands	436	-35.5	500	14.7
South East	388	4.6	528	36.1
Eyre	276	32.1	314	13.8
Northern	475	26.7	463	-2.5
South Australia	12 443	14.8	12 862	3.4

Source: Building Approvals, Australia - data available on request

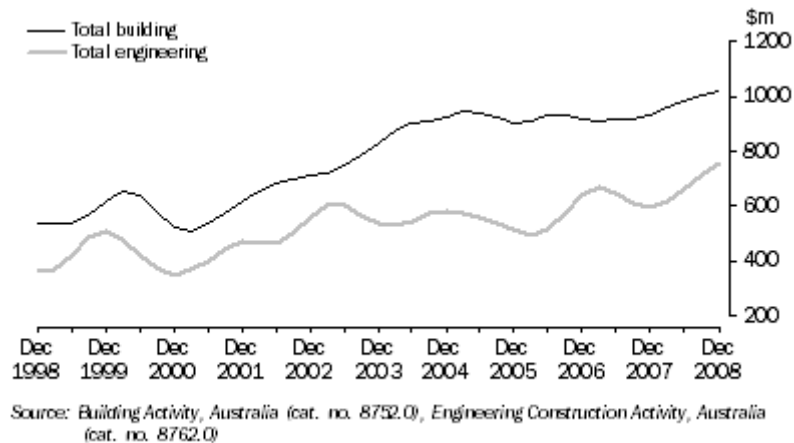
[Map of South Australia's Statistical Divisions \(PDF 2.44MB\)](#)

CONSTRUCTION WORK DONE

In the December quarter 2008, the total value of building work done (in trend terms) in South Australia was \$1,019.8m, an increase of 1.1% from \$1,008.5m for the September quarter

2008. The total value of engineering work done in the December quarter 2008 was \$755.7m, an increase of 6.2% from the September quarter 2008 (\$711.4m).

VALUE OF CONSTRUCTION WORK DONE, Chain volume measures, Trend, South Australia



Price Indexes



PRICE INDEXES

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[Consumer price index](#)

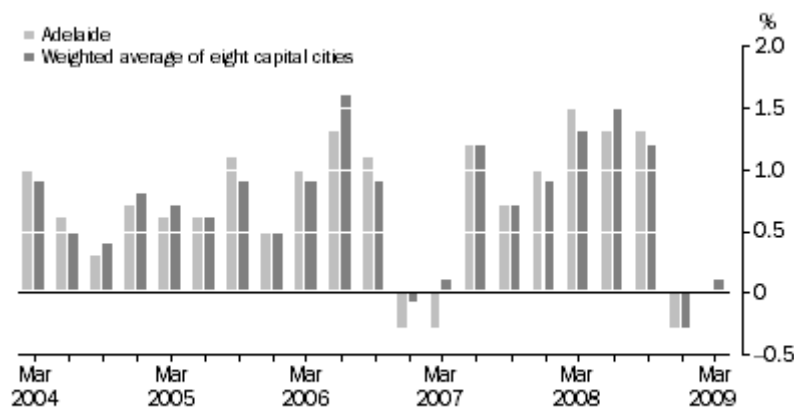
[Wage price index](#)

[House price index](#)

CONSUMER PRICE INDEX

The all groups consumer price index (CPI) for Adelaide remained virtually unchanged during the March quarter 2009, while the weighted average of the eight capital cities increased by 0.1% during that quarter. Adelaide's CPI increased by 2.3% in the year ending March quarter 2009, compared with a 2.5% rise in the weighted average of the eight capital cities.

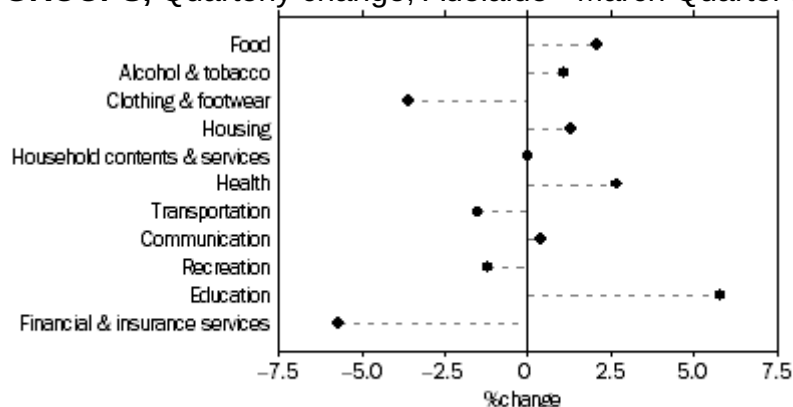
CONSUMER PRICE INDEX - ALL GROUPS, Quarterly change



Source: Consumer Price Index, Australia (cat. no. 6401.0)

Adelaide's largest percentage increases in prices from the previous quarter were in the areas of Education (5.8%), Health (2.7%) and Food (2.1%). The largest decreases in prices from the previous quarter were for Financial and insurance services (-5.7%) and Clothing and footwear (-3.6%).

CPI GROUPS, Quarterly change, Adelaide - March Quarter 2009

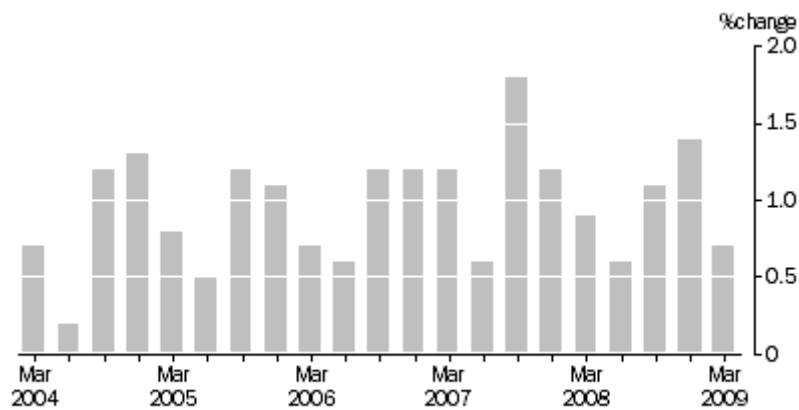


Source: Consumer Price Index, Australia (cat. no. 6401.0)

WAGE PRICE INDEX

The wage price index for all employee jobs in South Australia increased by 0.7% (in original terms) from the December quarter 2008 to the March quarter 2009. This was the same as the increase nationally (0.7%) over this period.

WAGE PRICE INDEX QUARTERLY CHANGES, Total hourly rates of pay excluding bonuses, Original, South Australia



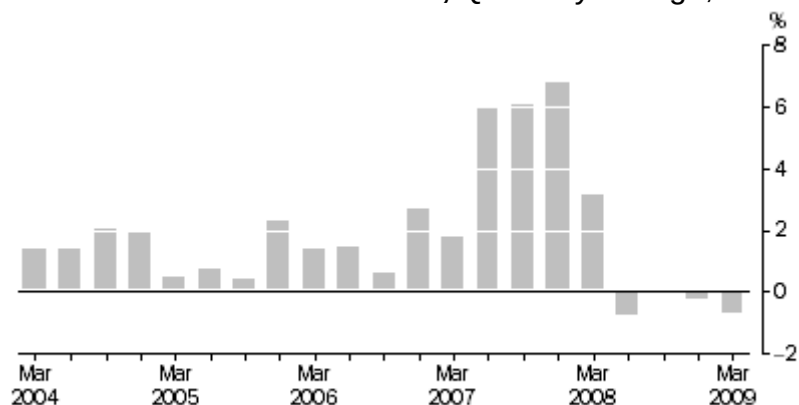
Source: Labour Price Index, Australia (cat. no. 6345.0)

HOUSE PRICE INDEX

Preliminary estimates show that the price index for established houses for Adelaide (in original terms) decreased 0.8% in the March quarter 2009. The only cities in which the House Price Index increased between the December quarter 2008 and the March quarter 2009 were Darwin (2.2%), Canberra (0.5%) and Hobart (0.1%). The price index for the weighted average of the eight capital cities decreased by 2.2% over this period.

Over the year to the March quarter 2009, the preliminary estimates show the price index for established houses for Adelaide fell 1.9%, while the weighted average of the eight capital cities decreased 6.7%.

ESTABLISHED HOUSE PRICES, Quarterly change, Adelaide



Source: House Price Indexes: Eight Capital Cities (cat. no. 6416.0)

Housing Finance

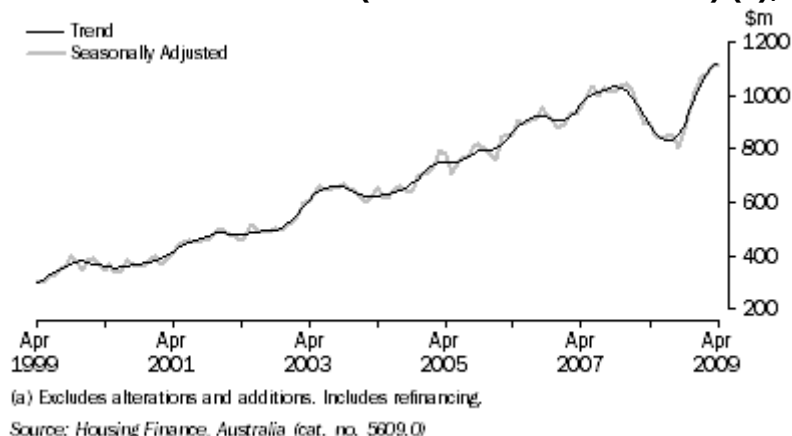


HOUSING FINANCE

HOUSING FINANCE COMMITMENTS

In trend terms, the total value of housing finance commitments (owner occupation) in South Australia in April 2009 was \$1,131m, an increase of 1.7% from \$1,111m in March 2009. Nationally, the value of housing finance commitments for owner occupation grew by 2.9% from \$15,430m in March 2009 to \$15,883m in April 2009.

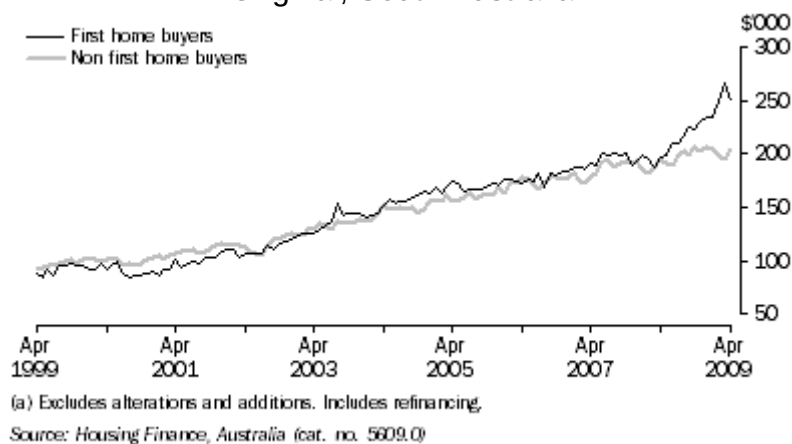
HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION) (a), South Australia



In April 2009, the average home loan size for owner occupied dwellings in South Australia was \$214,800, which was significantly lower than the average home loan size for Australia (\$264,700).

In April 2009, the average loan size for first home buyers in South Australia was \$249,200, which was 21.4% higher than the average loan size for non-first home buyers (\$205,200). Since April 2008, the average loan size for first home buyers has increased 26.6% while the average loan size for non-first home buyers has increased 5.4%.

HOUSING FINANCE COMMITMENTS (OWNER OCCUPATION) (a), Average loan size, Original, South Australia



For information on the house price index, please refer to the '[Price Indexes](#)' topic.

International Merchandise Trade



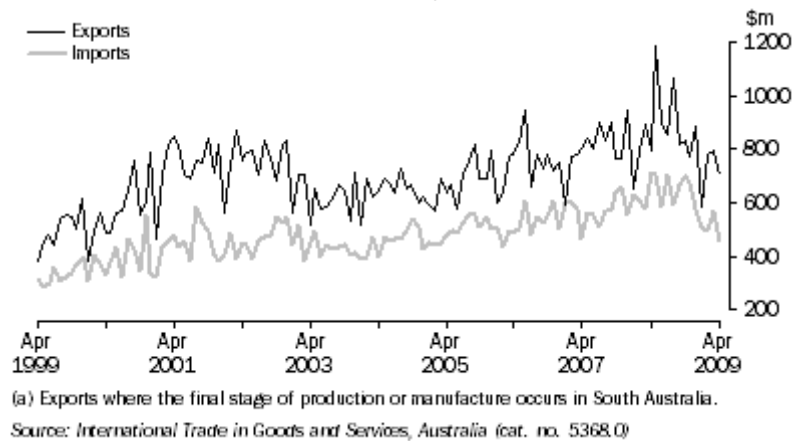
INTERNATIONAL MERCHANDISE TRADE

EXPORTS AND IMPORTS

South Australia's value of exports on a recorded trade basis in April 2009 was \$701m. This represents a decrease of 12.0% from March 2009 (\$797m) and a decrease of 11.4% from April 2008 (\$792m). The value of Australian merchandise exports for April 2009 was \$16,383m, a 0.2% increase from the previous year (\$16,352m in April 2008).

The value of South Australian merchandise imports decreased to \$456m in April 2009 from \$711m in April 2008, a decrease of 35.8%. The value of Australian merchandise imports for April 2009 was \$16,228m, a 7.6% decrease from April 2008 (\$17,567m).

VALUE OF INTERNATIONAL MERCHANDISE EXPORTS AND IMPORTS (a), on a recorded trade basis, South Australia



Water



WATER

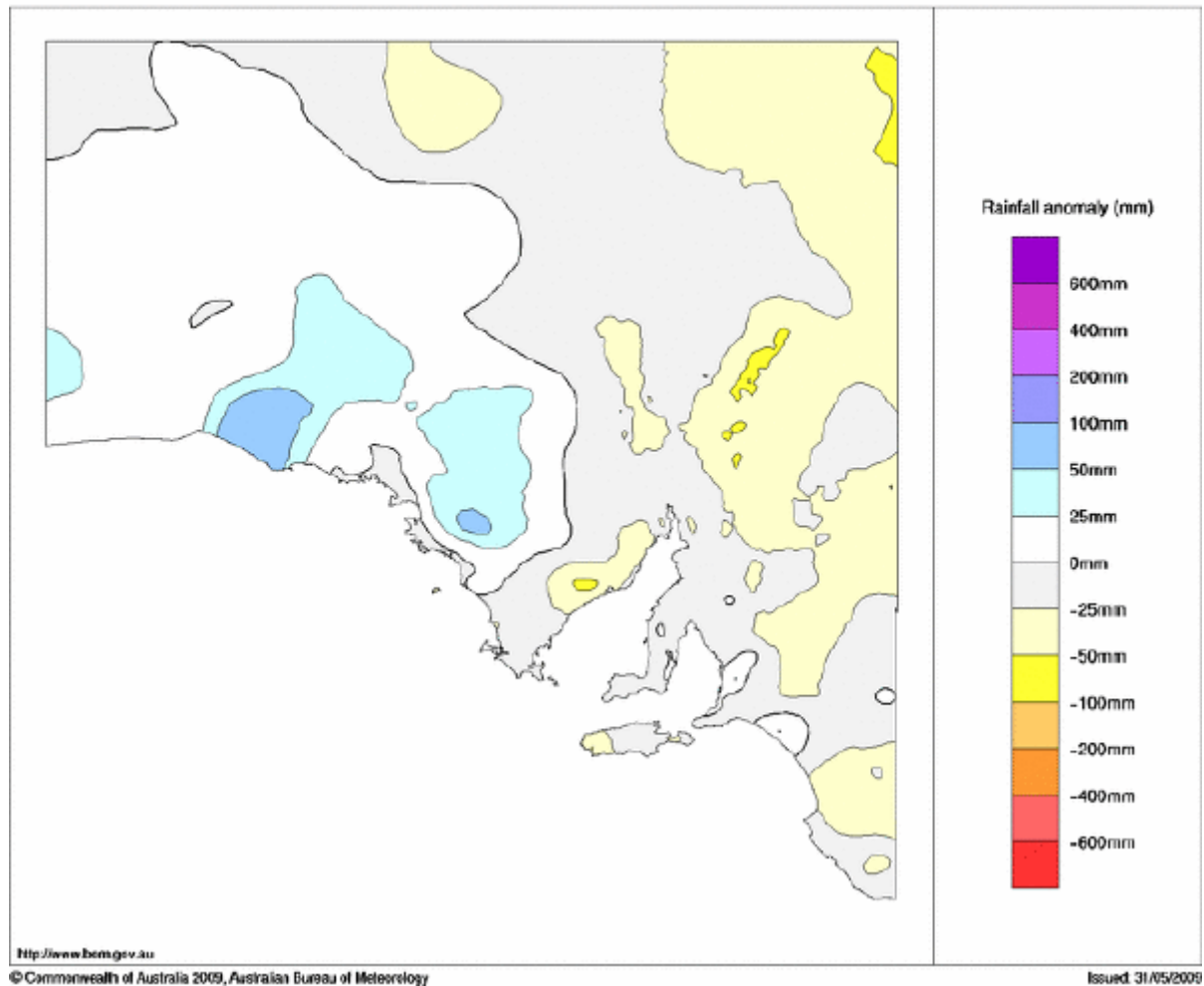
RAINFALL

South Australian rainfall totals were generally slightly below average across much of South Australia this autumn, typically 60 to 80% of average, apart from the Mount Lofty Ranges and adjacent areas, the far western agricultural areas, and the south-western pastoral areas, which saw rainfall above average. Areas of above average totals in the west were quite patchy due to the rainfall coming from the combination of several events that were not widespread, but were up to twice the average in some locations.

This month's [article](#) provides an analysis of what effect reduced rainfall has had on the irrigation practices of wine growers in South Australia.

Rainfall Anomalies.

Rainfall Anomalies (mm) 1 March to 31 May 2009
Product of the National Climate Centre

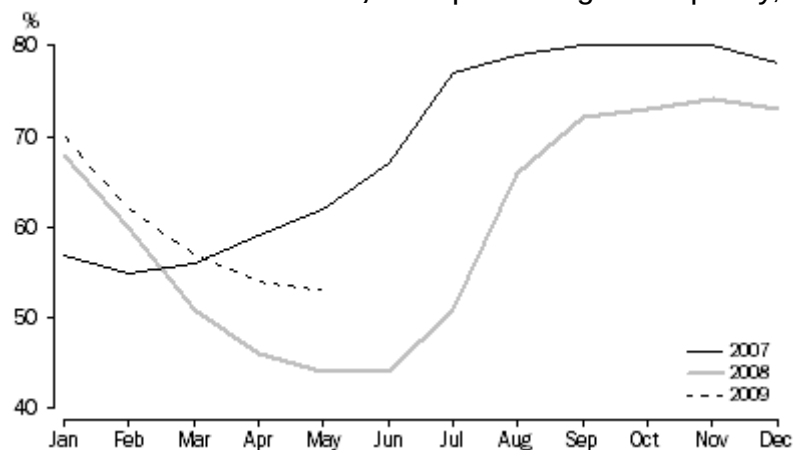


Source: 3-monthly rainfall anomalies for South Australia, Australian Bureau of Meteorology.

RESERVOIR LEVELS

The total water storage in Adelaide's reservoirs at the end of May 2009 was 53% of capacity, compared to 44% at the same time in 2008.

TOTAL RESERVOIR STORAGE, As a percentage of capacity, Adelaide



About this Release

SA Stats provides an overview of the South Australian population and economy. The publication is updated on a monthly basis, with most releases also featuring an article that provides a South Australian focus on economic, social and environmental issues.

Explanatory Notes are not included in SA Stats in the form found in other Australian Bureau of Statistics (ABS) publications. Readers are directed to the Explanatory Notes contained in related ABS publications.

Water Efficiency in South Australia's Vineyards (Feature Article)

FEATURE ARTICLE: WATER EFFICIENCY IN SOUTH AUSTRALIA'S VINEYARDS

INTRODUCTION

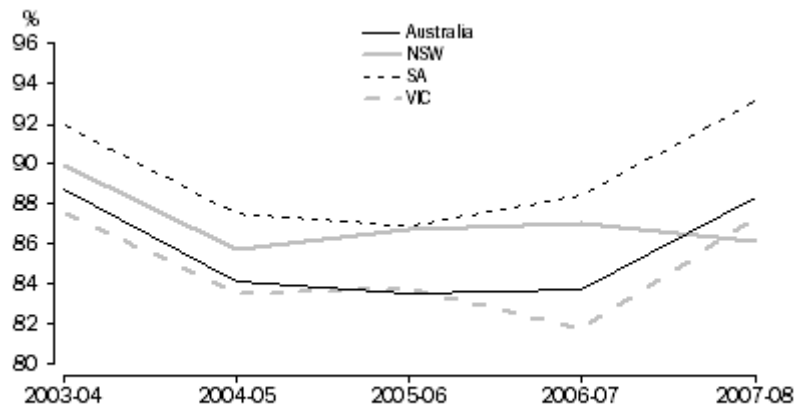
Rainfall in much of South Australia has decreased to levels below average or very much below average since late 2001 (Bureau of Meteorology 2008). These conditions are affecting irrigation of all regions through greatly reduced water allocation. As a result, winegrowers in some regions, predominantly the Riverland and Langhorne Creek, are facing very immediate financial threat (Primary Industries and Resources SA 2008). Better use of scarce water can be achieved through the adoption of efficient irrigation techniques, such as drip and microspray methods, in preference to the relatively inefficient spray, furrow and flood methods (Industry Partnerships Programme 2006). This article provides an analysis of the irrigation efficiency of vineyards and wine production in South Australia, using data from [Australian Wine and Grape Industry 2008](#) (cat. no. 1329.0).

VINEYARD IRRIGATION

South Australia is the principal grape and wine producing state in Australia, contributing 45.3% of the total 2007-08 Australian wine grape crush. Although wine grapes are grown in all states and territories of Australia, New South Wales and Victoria are the main contributors, outside of South Australia, to Australia's total wine production, and are, along with Australian totals, used for comparison purposes in this article.

There has been a notable increase in the proportion of vineyards using irrigation over the last few years. In 2007-08, 93.1% of vineyards in South Australia used irrigation other than rainfall, compared to 86.9% in 2005-06, demonstrating an increased reliance on irrigation. The proportion of vineyards irrigated in South Australia in 2007-08 is higher than both NSW (86.2%) and Victoria (87.3%). Nationally, the proportion of vineyards using irrigation has increased from 83.5% in 2005-06 to 88.3% in 2007-08.

PROPORTION OF VINEYARDS IRRIGATED



Source: Australian Wine and Grape Industry, 2008 (cat. no. 1329.0)

Methods of Irrigation

The water efficiency of vineyard irrigation varies with the method used. Drip or microspray methods are highly efficient, as tubes or pipes drip water slowly onto crops, leading to less water being lost through evaporation. Spray methods, which are subject to greater evaporation and are less targeted, are generally considered less efficient than drip or microspray. Furrow or flood irrigation is regarded as the least efficient method in most circumstances (South Australian Wine Industry Association 2004).

The most commonly used methods of irrigation in all states and territories are the drip or microspray methods, which experienced an increase in all states and territories from 2003-04. South Australia has consistently had the highest estimated proportion of vineyards watered via this method. Spray (excluding microspray) use has decreased in all states and territories, particularly in New South Wales and Victoria. Use of the furrow or flood method is decreasing in all states, with South Australia reducing the use of this method to 0.8% in 2007-08, around half of the 2003-04 level.

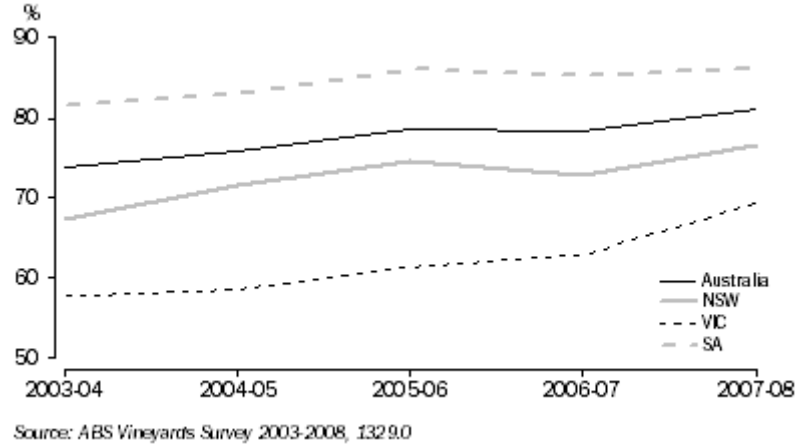
WATERING METHOD USED(a), proportion of total irrigated area

	NSW %	VIC %	SA %	Australia %
Spray (exc. microspray)				
2003-04	10.5	29.3	15.4	16.4
2004-05	8.7	29.5	15.1	15.8
2005-06	10.4	32.4	15.8	17.4
2006-07	7.9	30.3	16.0	15.7
2007-08	6.6	25.4	14.1	13.6
Drip or microspray				
2003-04	67.3	57.8	81.6	73.8
2004-05	71.7	58.6	83.1	75.9
2005-06	74.7	61.4	86.1	78.6
2006-07	72.9	62.9	85.2	78.5
2007-08	76.7	69.3	86.2	81.0
Furrow or flood				
2003-04	20.3	10.8	1.7	8.2
2004-05	19.2	10.9	1.2	7.7
2005-06	20.8	10.9	1.3	8.1
2006-07	20.7	9.1	1.4	7.9
2007-08	16.8	7.8	0.8	6.3

(a) More than one method may be used

Since 2003-04, the use of drip or microspray irrigation methods in South Australia has steadily increased (reaching 86.2% in 2007-08), and continues to be above the Australian average (81.0%).

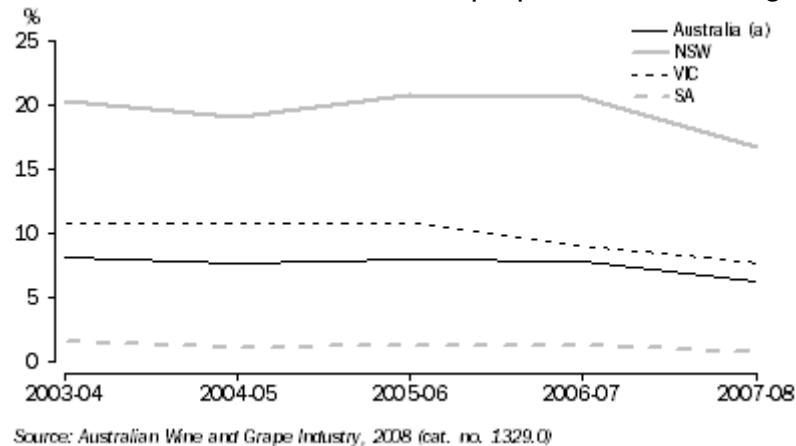
DRIP OR MICROSPRAY IRRIGATION, as proportion of total irrigated area



The furrow or flood method involves gravity distributing water to where it is required, through virtual flooding of cultivated land. Although a cheaper option in terms of labour costs, more water is lost to evaporation via this method especially in times of drought. A tightening of water allocations over the last two years may have contributed to the large decrease in use of the furrow/flood method as irrigators convert to more water efficient options.

All states and territories have shown a decline in furrow or flood methods of irrigation since 2003-04, while South Australia has consistently irrigated under 2.0% of vineyards in this manner, markedly below the national average (6.3% in 2007-08). New South Wales has recently shown a sharp decline in this method of irrigation, but still remains well above South Australia in 2007-08.

FURROW OR FLOOD IRRIGATION, as proportion of total irrigated area

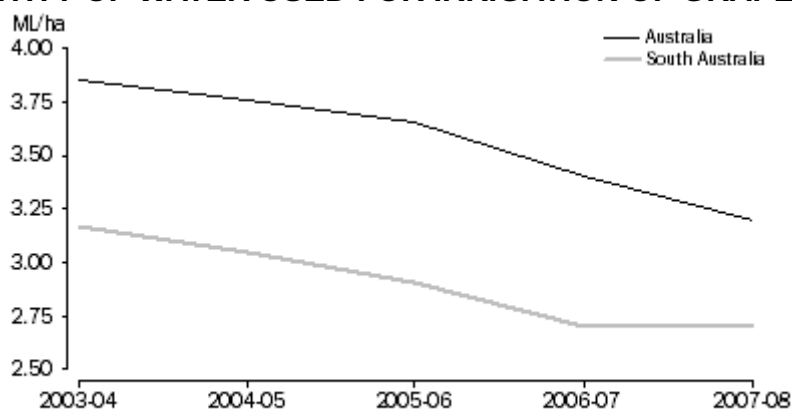


Quantity of Water Used

South Australia's total water usage for vineyard irrigation has decreased from 200,000 megalitres in 2003-04 to 189,000 ML in the 2007-08 period, although a slightly greater proportion of vineyards were irrigated in 2007-08. This is due to the quantity of water being

used per hectare of vineyard reducing from 3.2 ML/ha in 2003-04 to 2.7 ML/ha in 2007-08. South Australia's water usage per hectare over the period has consistently been lower than for Australia as a whole.

QUANTITY OF WATER USED FOR IRRIGATION OF GRAPEVINES

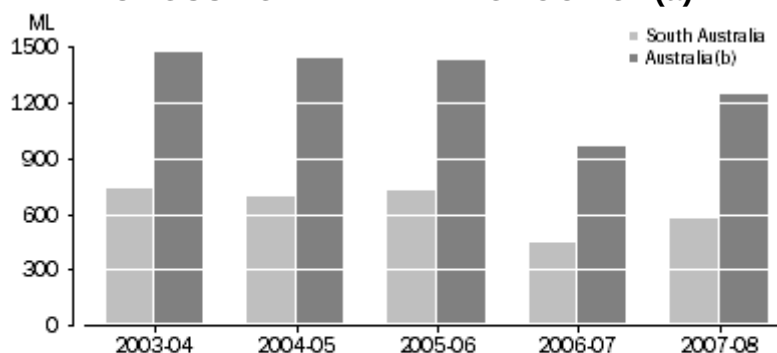


Source: ABS Vineyards Survey 2003-2008, 1329.0

WINE PRODUCTION

Despite lowered water allocations, less water being used for irrigation, the current drought conditions, and less wine being produced overall, South Australia has continued to produce at least 46.0% of the country's wine. After a season of low production in 2006-07, South Australia produced 572,870 kL (46.0%) of Australia's 1,244,776 kL of wine in 2007-08.

GROSS TOTAL WINE PRODUCTION(a)



(a) Production for winemakers crushing more than 400 tonnes annually
(b) Excludes NT

Source: Australian Wine and Grape Industry, 2008 (cat. no. 1329.0)

SUMMARY

Current drought conditions have had a significant impact upon water allocations for vineyard irrigators. The proportion of vineyards being irrigated has increased in all states and territories since 2004-05 aside from New South Wales. The most common method of irrigation for all states and territories is the drip or microspray method which is more water-efficient than other methods, such as furrow or flood. South Australia has consistently had the highest proportion of surveyed vineyards watered via drip or microspray across each financial year since 2003-04, and the lowest usage of furrow or flood methods.

Water used for irrigation of each hectare of vineyards in South Australia has fallen during the

2003-04 to 2007-08 period, down to 2.7 ML per hectare in 2007-08, while remaining consistently lower than Australia as a whole.

LIST OF REFERENCES

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